

Remarks

Claims 1-9 were previously pending in the subject application. By this Amendment, claim 1 has been amended. Support for this amendment can be found throughout the specification (see page 1, lines 29-31 and page 3, lines 8-23). Accordingly, claims 1-9 are now before the Examiner for consideration.

The amendments to the claims have been made in an effort to lend greater clarity to the claimed subject matter and to expedite prosecution. The amendments should not be taken to indicate the applicants' agreement with, or acquiescence to, the rejections of record. Favorable consideration of the claims now presented, in view of the remarks and amendments set forth herein, is earnestly solicited.

Initially, the Office Action indicates that the Figures have been objected to. Please note that corrected formal figures are being prepared.

Claims 1-8 have been rejected under 35 U.S.C. §102(b) as being anticipated by Lowe *et al.* (U.S. Patent No. 5,989,923). The applicants respectfully traverse this ground of rejection because the cited reference does not teach each and every element of the claimed invention.

Lowe *et al.* disclose a holographic sensor comprising a hologram disposed throughout the volume of a medium. However, Lowe *et al.* do not teach that the medium is porous. The claims of the present invention have been amended to require that the medium contains pores.

It is a basic premise of patent law that in order to anticipate, a single reference must disclose within the four corners of the document each and every element and limitation contained in the rejected claim. *Scripps Clinic & Research Foundation v. Genentech Inc.*, 18 U.S.P.Q.2d 1001, 1010 (Fed. Cir. 1991). As discussed above, Lowe *et al.* do not teach a hologram that is disposed throughout the volume of a medium containing pores. Accordingly, the applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. §102(b).

Claim 9 has been rejected under 35 U.S.C. §103(a) as being obvious over Lowe *et al.* (U.S. Patent No. 5,989,923) in view of Blyth *et al.* (U.S. Pat. No. 6,689,316). The applicants respectfully traverse this ground of rejection because the cited references do not teach or suggest the claimed invention.

The deficiencies of the Lowe reference have been discussed above. Blyth *et al.* do not cure or even address these deficiencies. Blyth *et al.* teach a method for producing holographic sensors but make no mention of using a porous medium. A hologram disposed throughout the volume of a medium that contains pores is required by the claims as amended. The cited combination of references would not have made the invention of the applicants obvious since there is no disclosure or suggestion of a porous medium. Accordingly, the applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. §103(a).

Moreover, conventional volume holograms are made to be non-responsive to their environment. Creating a more porous system renders the hologram more sensitive and would have been counter-intuitive to a skilled artisan at the time of the invention of the applicants. Therefore, one skilled in the art would have had no motivation to combine any pore-forming techniques that may have been known with a holographic sensor. In fact, the decreased response time of the holographic sensor reported in the subject specification was a surprising result. Therefore, the applicants' novel sensor was not obvious at the time it was invented.

In view of the foregoing remarks, the applicants believe that the currently pending claims are in condition for allowance, and such action is respectfully requested.

The Commissioner is hereby authorized to charge any fees under 37 CFR §§1.16 or 1.17 as required by this paper to Deposit Account No. 19-0065.

The applicants also invite the Examiner to call the undersigned if clarification is needed on any of this response, or if the Examiner believes a telephone interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,



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